DEPARTMENT OF THE ARMY
Hawthorne Army Depot
1 South Maine Avenue
Hawthorne, NV 89415-9404

04 OCT 2000

REPLY TO
ATTENTION OF

Operations Review Division

Mr. Eric Noack
Division of Environmental Protection
Bureau of Federal Facilities
333 West Nye Lane
Carson City, Nevada 89706-0851

Dear Mr. Noack:

Enclosed are the revisions for the Solid Waste Management Unit I-14 (Building 46 spill site) decision document. Please substitute the pages in the original document with these replacement pages. The change pages show the results of further investigation of this site as requested by your office and indicated no further action is warranted at this site.

Request that after your review and approval, a copy of the signed signature page be returned to HWAD in order to show response complete to higher headquarters.

Point of contact is Mr. Herman Millsap, (775) 945-7317.

Sincerely,

Vernon L. Shankle

Vernon L. Shankle, P.E.
Chief, Operations Review Division

Enclosure

Copies Furnished (wo/enclosure):

General Manager, Day & Zimmermann Hawthorne Corporation, Hawthorne Army Depot, 2 South Maine Ave, Hawthorne, Nevada 89415-9404
U.S. Army Corps of Engineers, Sacramento District, ATTN: CESPK-PPMD (Ms. Sophie Ngu), 1325 J Street, Sacramento, California 95814-2922

DECISION DOCUMENT
BUILDING 46 SPILL SITE, SWMU I-14
Hawthorne Army Depot
Hawthorne, Nevada
September 2000

1. PURPOSE of DECISION DOCUMENT

1.1 Introduction

This decision document describes the rationale for the remedial action at, and closure of, Solid Waste Management Unit (SWMU) I-14, Building 46 Spill Site, at the Hawthorne Army Depot (HWAD), Hawthorne, Nevada. This decision document was developed by the U.S. Army Corps of Engineers, Sacramento District (USACE), HWAD, and Day & Zimmermann Hawthorne Corporation, with support from the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection (NDEP).

1.2 Site Description and Background

SWMU I-14 is the result of a release of diesel contaminated water from a compressor inside Building 46 in 1991.

Tetra Tech performed a visual site inspection of the SWMU in November 1993. The corrugated siding of Building 46 and the ground outside the building were visibly oil-stained which was most intense near the wall of the building. The stain was visible on the unpaved ground to about 10 feet away from the point where the release occurred. There was evidence of minor oil leaks on the concrete pad inside the building. Based on the nature of the facility, the staining was probably only superficial. According to a 1991 summary of the HWAD SWMU's prepared by NDEP, soil samples were collected at the site in June 1991. Tetra Tech was not able to obtain the results of the sampling.

Tetra Tech conducted a base-wide ground water level survey in March 1994. Based on this survey, ground water at SWMU I-14 was estimated at an elevation of about 4,040 feet (120 feet bgs).

1.3 Chemicals of Concern

The potential chemicals of concern are listed in Table 1.

Table 1 - Summary of Chemicals of Concern

Chemical of Concern	Rationale Behind Designation	Reference
Petroleum Hydrocarbons	Release of diesel-contaminated water	H. Millsap 1994
PCBs	Possible components of the compressor oil	H. Millsap 1994
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	Possible components of petroleum hydrocarbons	Tetra Tech

2. SUMMARY of SITE RISK

Soil samples collected at SWMU I-14 in 1994 contained no detectable concentrations of PCBs. These samples did contain detectable concentrations of total petroleum hydrocarbons-diesel (TPH-d). The highest concentrations of TPH-d (9,200 and 22,000 mg/kg) were detected in the two surface samples. These two surface soil samples were also reported to contain concentrations of BTEX (benzene, toluene, ethylbenzene, and xylene) at greater than 300 mg/kg by the immunoassay field analysis method. The two soil samples collected at a depth of three feet were reported to contain greater than ten but less than 50 mg/kg of BTEX by this field method. All other samples contained no detectable concentrations of BTEX.

The spill at this SWMU occurred approximately three years prior to the 1994 sample collection date, and was exposed to the severe high altitude and high temperature climate conditions of the Hawthorne Valley. The relatively volatile BTEX compounds were not likely to be preserved at this site under these conditions, although, the heavier diesel constituents would persist. Therefore, Tetra Tech concluded that the reported BTEX results from the immunoassay test most likely represent interference of polynuclear aromatic hydrocarbon compounds associated with the high diesel concentrations, and are not representative of the volatile constituents of BTEX itself.

In August 2000, the site was excavated to a 6-foot depth. Samples collected from the walls and floor of the excavation were all non-detect for TPH.

3. SUMMARY of REMEDIAL ALTERNATIVES

3.1 Remedial Investigations

3.1.1 Objectives

The objective of the investigation at SWMU I-14 was:

- To determine the magnitude and extent of petroleum hydrocarbons in the soil and to design an effective remedy for this SWMU.

This objective was met.

3.1.2 Planned and Actual Investigation

Planned and actual field investigation activities are described in Table 2. Figure I-14-2 shows the locations of the actual field investigation activities at SWMU I-14. A permanent monument was installed and surveyed and the SWMU boundaries delineated at the locations shown on

this figure. The appendices of this report include HWAD proposed closure goals for soils, lab results including detection limits, survey results, and photographs. All activities were conducted based on the Work Plan (Tetra Tech, 1994a), Site Safety and Health Plan (Tetra Tech, 1994b) and the Chemical Data Acquisition Plan (Tetra Tech, 1994c).

Table 2 - Summary of Planned and Actual Field Investigations

Planned Investigation	Actual Investigation
Near Surface Sampling - Hand auger at 5 locations, sample at depths of 2 and 5 feet.	Near Surface Sampling - Hand auger at 3 locations. 9 samples collected from 0 to 5 feet. Excavated to 5 feet, 4 samples collected. Excavated to 6 feet, 5 samples collected.
Waste Characterization - Profile soil for removal/disposal	Waste Characterization - Sample analyses performed
Surveying - GPS[a] at sample locations	Surveying - GPS at 2 reference points to locate hand auger locations.

[a] GPS = Global positioning system

3.1.3 Results

In 1994, nine surface and near surface samples were collected and analyzed for the chemicals of concern. Table 3 lists analytical results for total petroleum hydrocarbons as diesel (TPH-d), BTEX, and polychlorinated biphenyls (PCBs) in the soil samples. A "Summary Table of Analytical Data" is included at Appendix B for these samples.

Table 3 - Results of Sampling Conducted in 1994

Sample Number	Sample Date	Sample Depth	TPH-Diesel EPA Method 8015-M	BTEX Immunoassay Test	PCBs Immunoassay Test
I14-HA01-1-S	16-Jul-94	1.0	5.3	< 10	< 1
I14-HA01-2-S	16-Jul-94	3.0	130	> 10 and < 50	< 1
I14-HA02-0-S	16-Jul-94	0	22,000	> 300	< 1
I14-HA02-1-S	16-Jul-94	1.0	3.7	< 10	< 1
I14-HA02-2-S	16-Jul-94	3.0	1,200	> 10 and < 50	< 1
I14-HA03-0-S	16-Jul-94	0	9,200	> 300	< 1
I14-HA03-1-S	16-Jul-94	1.0	350	< 10	< 1
I14-HA03-2-S	16-Jul-94	3.0	59	< 10	< 1
I14-HA03-3-S	16-Jul-94	5.0	4,200	< 10	< 1

Tables 4 and 5 contain the results of sampling after the site was excavated in April and August 2000.

Table 4 - Results of Sampling Conducted in April 2000

Sample Number	Sample Date	Sample Depth	TPH (Method 8015M)
46N-03	4/26/00	3 feet	Non-detect (ND)
46N-05	4/26/00	5 feet	ND
46S-03	4/26/00	3 feet	12,000 mg/kg
46S-05	4/26/00	5 feet	88 mg/kg

Table 5 - Results of Sampling Conducted in August 2000

Sample Number	Sample Date	Sample Depth	TPH (Method 8015M)
46-Wall-N	8/28/00	5 feet	Non-detect (ND)
46-Wall-E	8/28/00	5 feet	ND
46-Wall-S	8/28/00	5 feet	ND
46-Wall-W	8/28/00	5 feet	ND
46-Floor-1	8/28/00	6 feet	ND

3.2 Remedial Actions

3.2.1 Summary of Remedial Alternatives

The remedial alternative for this site is the removal and disposal of the contaminated soil and backfilling with clean soil.

3.2.2 Summary of Remedial Actions

The contaminated soil was removed and will be remediated by landfarming. The excavation was backfilled with clean soil. Photographs of the site before and after implementation of the remedial action are included at Appendix D.

4. PUBLIC/COMMUNITY INVOLVEMENT

It is U.S. Department of Defense and Army policy to involve the local community throughout the investigation process at an installation. To initiate this involvement, HWAD has established a repository in the local public library which includes final copies of all past studies and documents regarding environmental issues at the facility. This repository will be maintained and updated with all future final documents as they are issued to HWAD.

HWAD has solicited community participation in establishment of the restoration advisory board (RAB). However, because of insufficient public response, HWAD has not formed a RAB. HWAD will continue to solicit community involvement.

5. CONCLUSIONS and RECOMMENDATIONS

The HWAD proposed closure goals for all analytes are listed in Appendix A. These closure goals were used in evaluating the detected chemicals. Tables 3 and 4 list detected chemicals of concern in the soil samples.

All of the soil samples collected at SWMU I-14 in 1994 contained detectable concentrations of TPH-d. The highest concentrations of TPH-d (9,200 and 22,000 mg/kg) were detected in the two surface samples. These two surface soil samples were also reported to contain concentrations of BTEX at greater than 300 mg/kg by the immunoassay field analysis method. The two soil samples collected at a depth of three feet were reported to contain greater than ten but less than 50 mg/kg of BTEX by this field method. All other samples contained no detectable concentrations of BTEX.

The samples collected in April 2000 at the 3- and 5-foot depths at the south end of the excavation contained 12,000 mg/kg and 88 mg/kg, respectively, of TPH. These samples were also analyzed for PCB's and were all non-detect.

The samples collected in August 2000 from the walls and floor of the excavation after removal of soil to 6 feet below ground surface, were all non-detect for TPH. These results indicate that all contaminated soil has been removed.

The spill at this SWMU occurred approximately three years prior to the 1994 sample collection date, and the surface and near-surface soil was exposed to the high altitude and high temperature climate conditions of the Hawthorne Valley. The relatively volatile BTEX compounds were not likely to be preserved at this site under these conditions, although the heavier diesel constituents would persist. Therefore, Tetra Tech concluded that the reported BTEX results from the immunoassay test most likely represented interference of poly-nuclear aromatic hydrocarbon compounds associated with the high

diesel concentrations, and were not representative of the volatile constituents of BTEX.

This SWMU will be closed with regard to the chemicals of concern and without land use restrictions.

6. DECLARATION

The selected remedy is protective of human health and the environment. It has been shown that a complete exposure pathway to human health and the environment does not exist, and there is no potential for such an exposure pathway to be completed in the future.

U.S. ARMY

3 Oct 2000
Date

Anne L. Davis
Lieutenant Colonel, U.S. Army
Commanding

STATE OF NEVADA

31 October 2001
Date

Paul Liebendorfer
Chief, Bureau of Federal Facilities

REFERENCES

Tetra Tech. 1993. Draft Technical Memorandum for Group B SWMUs, Hawthorne Army Ammunition Plant. November 22, 1993.

Tetra Tech. 1994a. Remedial Investigation, Group B SWMUs, Final Work Plan, Volume 1, Investigation Description, and Volume 2, Sampling and Analysis Plans, Hawthorne Army Ammunition Plant. May, 1994.

Tetra Tech. 1994b. Site Safety and Health Plan, Hawthorne Army Ammunition Plant. June, 1994.

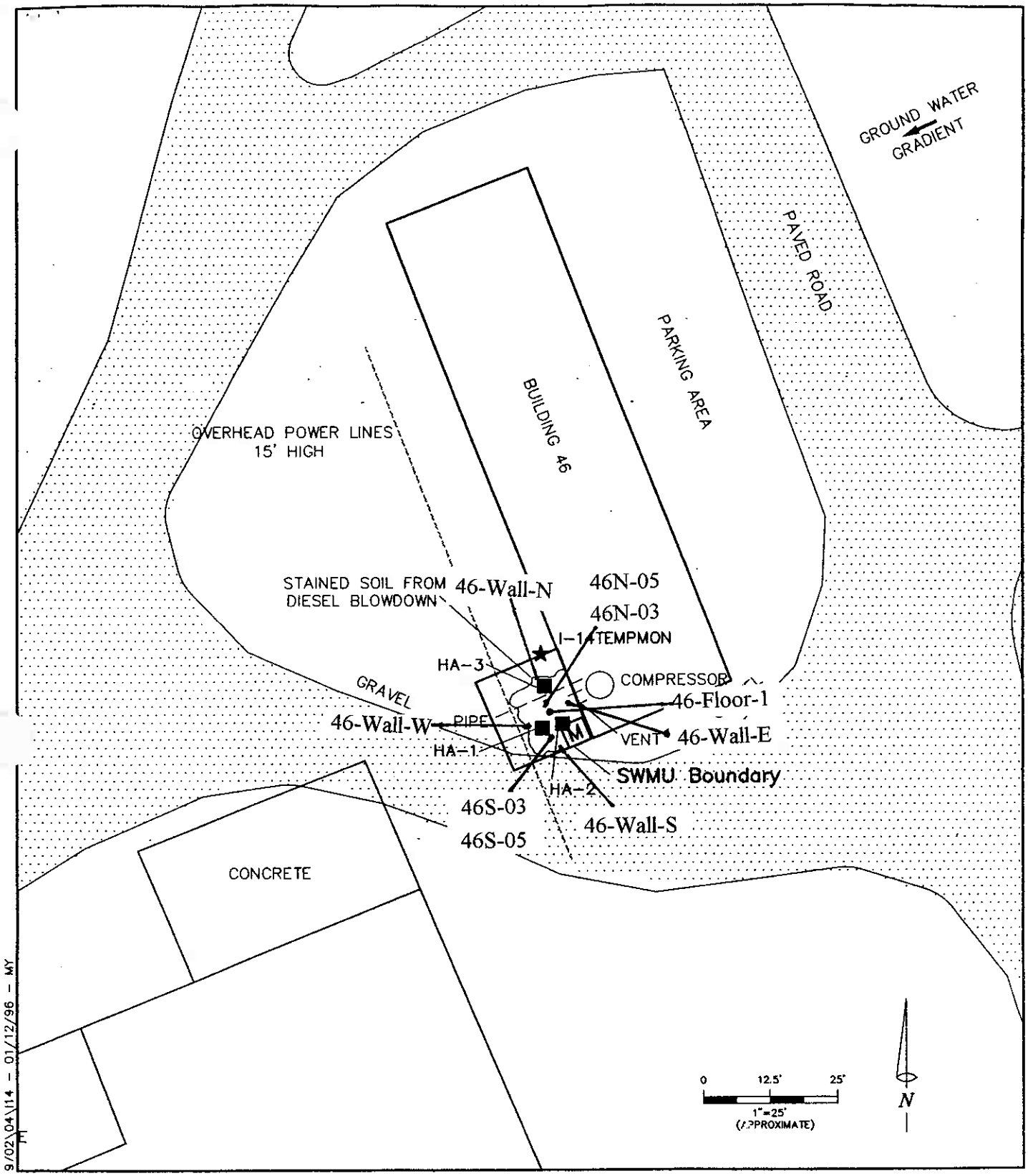
Tetra Tech. 1994c. Final Chemical Data Acquisition Plan, Hawthorne Army Ammunition Plant. June 28, 1994.

Tetra Tech. 1995. Group B Chemical Data Submittal, Hawthorne Army Ammunition Plant. March, 1995.

Tetra Tech. 1996. Hawthorne Army Depot Remedial Investigation Group B Solid Waste Management Units, Final Closure Report, SWMU A-03 Coal Ash Landfill, SWMU B-28a 108-20a EO Spill Impoundment, SWMU B-28b 108-20b EO Spill Impoundment, SWMU B-28c 104-8 EO Spill Impoundment, SWMU B-28d 104-10 EO Spill Impoundment, SWMU I-14 Bldg 46 Spill Site, SWMU J-04 107 Drum Storage, SWMU J-05 Dock 1 Landfill, SWMU J-06 Dock 2 Landfill, SWMU J-07 Dock 3 Landfill, SWMU J-08 Dock 4 Landfill, SWMU J-09 Dock 5 Landfill, SWMU J-10 Dock 6 Landfill, SWMU J-13 WADF South Dump, SWMU J-17 Thorne Drum Area, SWMU J-21 Bldg 97 Old Dock Area, SWMU J-22 50 Group Pits, SWMU J-24 Trench near 50-60.

USACE. 1993. Installation Action Plan for Hawthorne Army Ammunition Plant (HWAAP), prepared by S. Hong.

USAEHA. 1988. Memorandum for Commander, Hawthorne Army Ammunition Plant. Subject: Hazardous Waste Management Consultation No. 37-26-0236-88, Results of Analyses of Soil Samples from the FS Smoke Operations Site at Hawthorne Army Ammunition Plant, Hawthorne, NV. 3 November 1988.



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LEGEND:

★ SWMU Reference point

■ HA-X Hand auger sample location and number

[M] Monument location

TETRA TECH

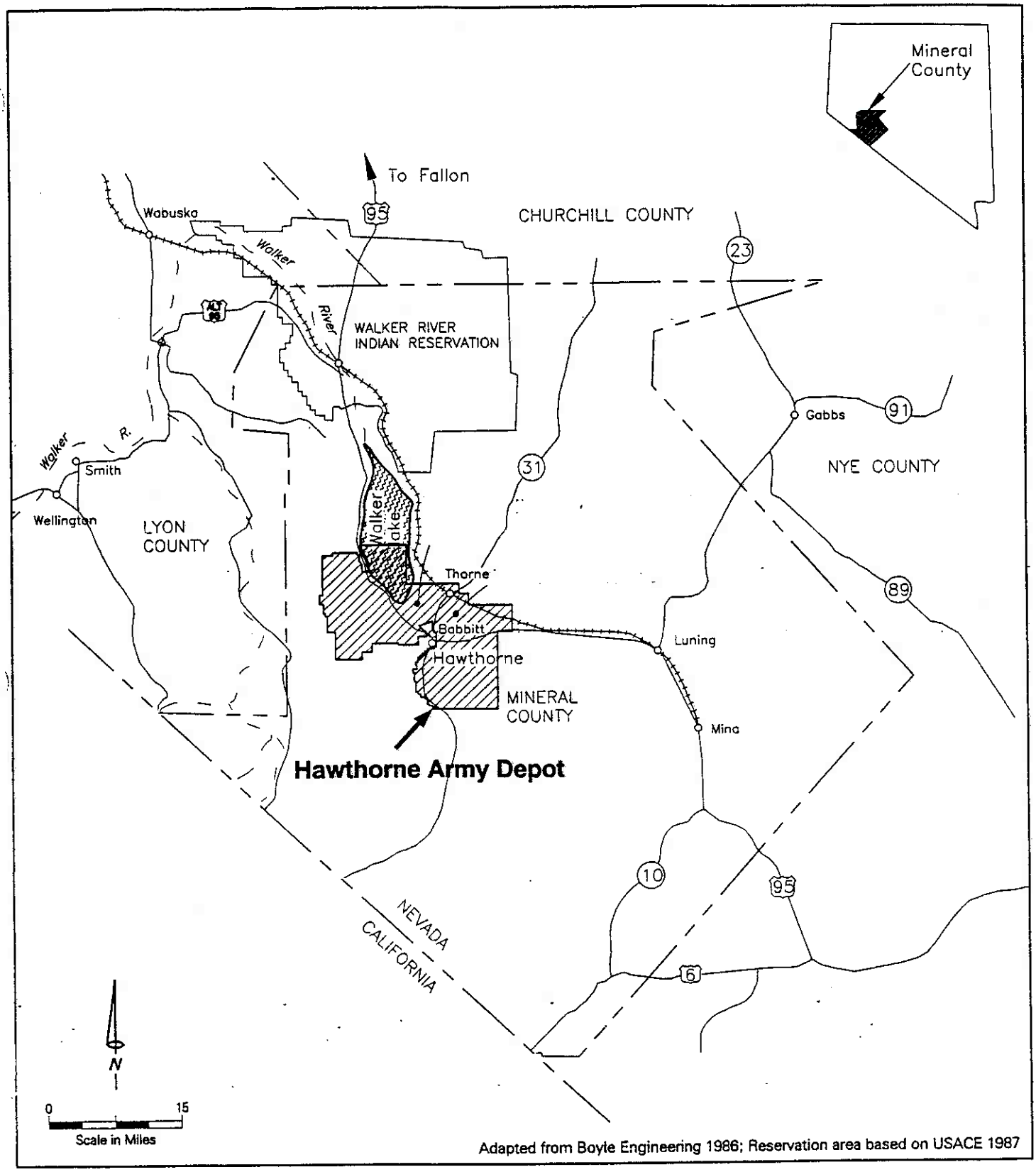
Activity Map SWMU I-14 Building 46 Spill Site

Hawthorne Army Depot
Hawthorne, Nevada

Source: Base map digitized from Aerial Photo Survey, June 1994. Geophysical data from Geophysical Survey, NORCAL, August 1994.

Figure I-14-2

Figures



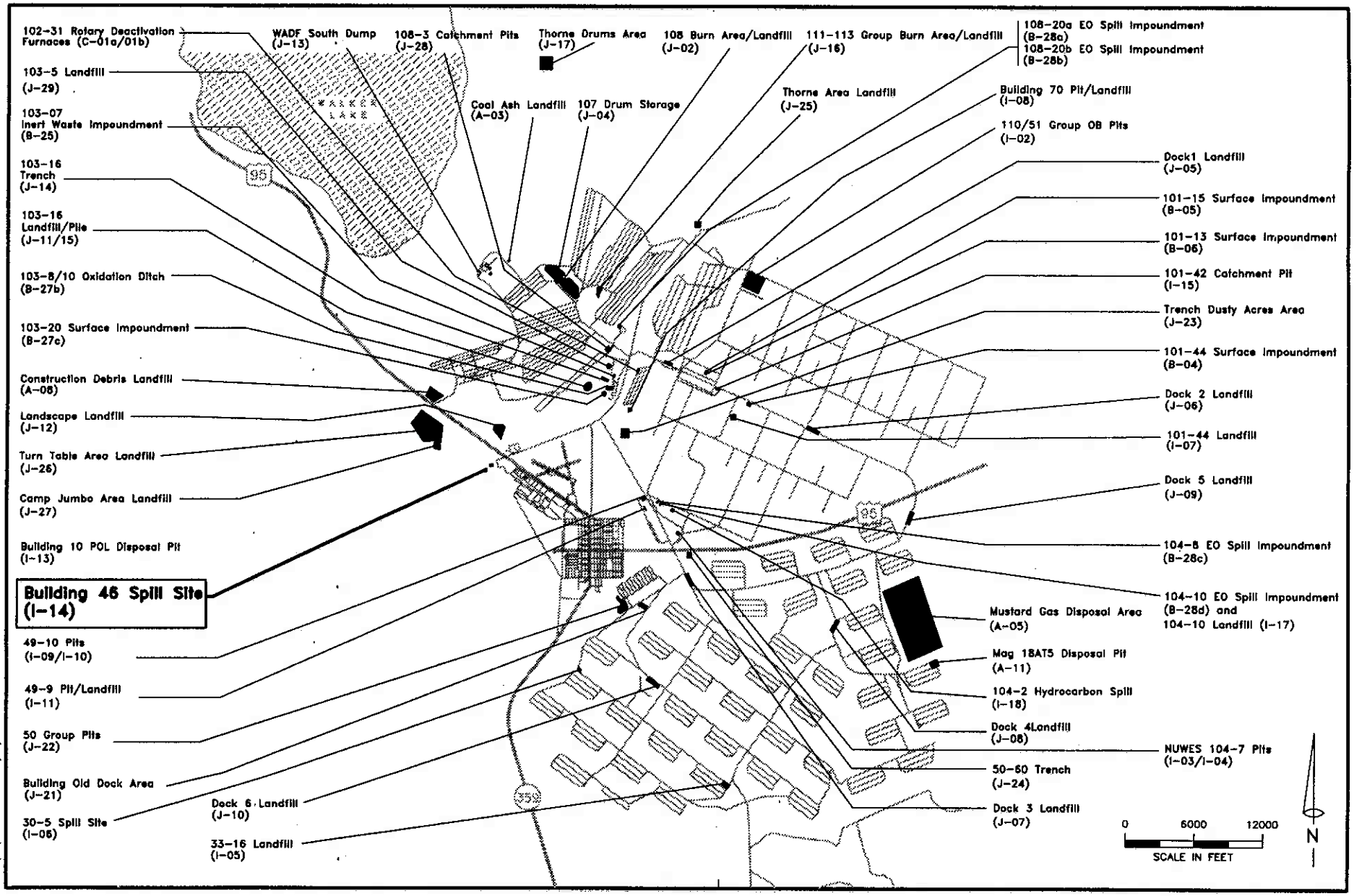
Location Map

Legend

Hawthorne Army Depot

Hawthorne Army Depot
Hawthorne, Nevada

Tetra Tech, Inc.



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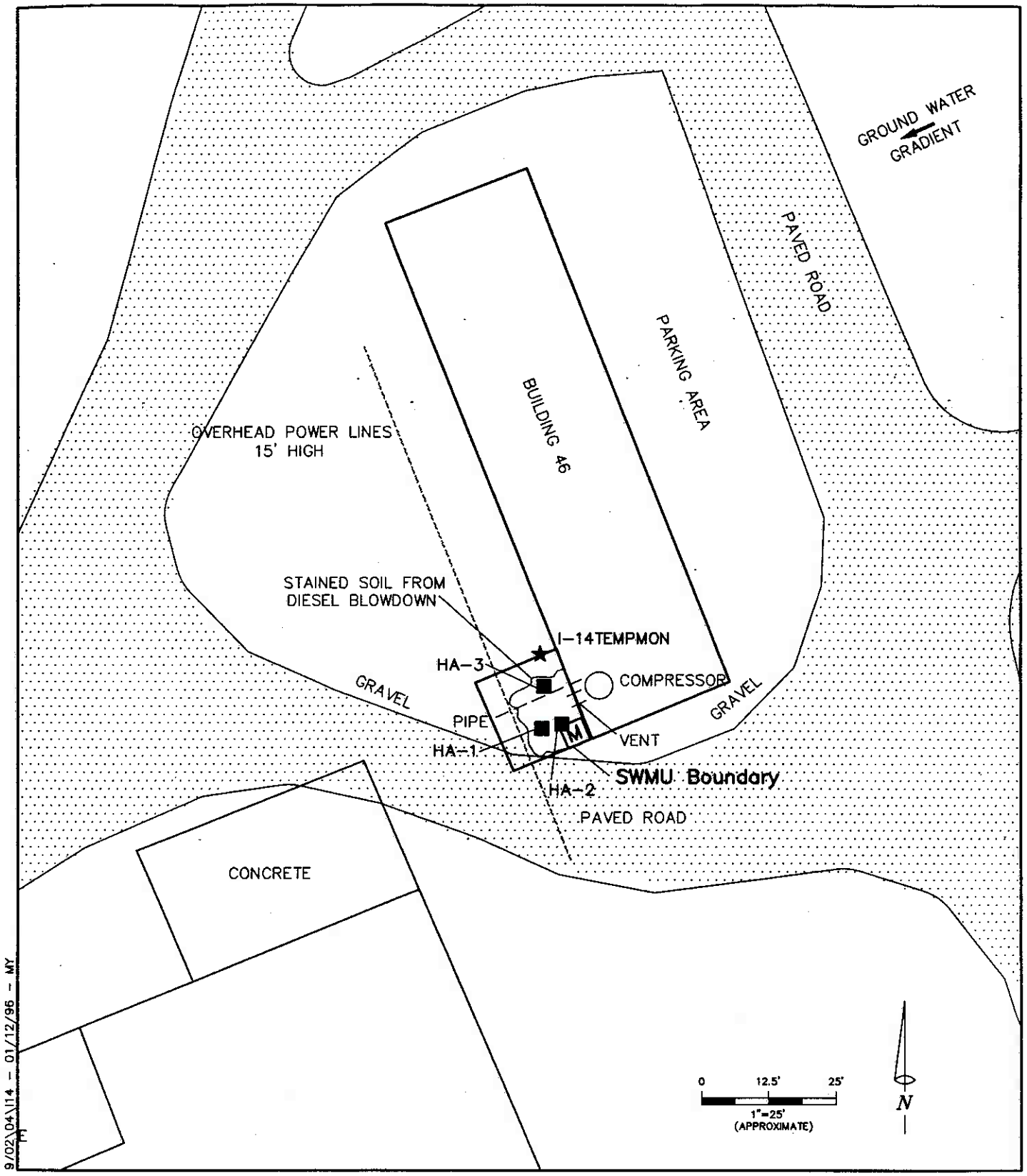
TETRA TECH

Location Map
Hawthorne Army Depot

Hawthorne, Nevada

Figure SWMU-I-14-1



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LEGEND:

★ SWMU Reference point

■ HA-X Hand auger sample location and number

[M] Monument location

TETRA TECH

Activity Map SWMU I-14 Building 46 Spill Site

Hawthorne Army Depot
Hawthorne, Nevada

Source: Base map digitized from Aerial Photo Survey, June 1994. Geophysical data from Geophysical Survey, NORCAL, August 1994.

Figure I-14-2

Appendix A

Proposed Closure Goals
Hawthorne Army Depot
Hawthorne, Nevada

Constituent of Concern	Chemical Classification	Carcinogenic (C) or Non-carcinogenic (NC)	HWAD Proposed Closure Goals for Soil (mg/kg)	HWAD Proposed Closure Goal Source
Nitrate	Anion	NC	128,000	Calculated Subpart S[a]
2-Amino-dinitrotoluene	Explosive	NC	-	NA[b]
4-Amino-dinitrotoluene	Explosive	NC	-	NA
1,3-Dinitrobenzene	Explosive	NC	8	Calculated Subpart S
2,4-Dinitrotoluene	Explosive	NC	160	Calculated Subpart S
2,6-Dinitrotoluene	Explosive	NC	80	Calculated Subpart S
HMX	Explosive	NC	4,000	Calculated Subpart S
Nitrobenzene	Explosive	NC	40	Calculated Subpart S
Nitrotoluene (2-, 3-, 4-)	Explosive	NC	800	Calculated Subpart S
RDX	Explosive	NC	64	Calculated Subpart S
Tetryl	Explosive	NC	800	Calculated Subpart S
1,3,5-Trinitrobenzene	Explosive	NC	4	Calculated Subpart S
2,4,6-Trinitrotoluene	Explosive	C	233	Calculated Subpart S
Aluminum	Metal	NC	80,000	Calculated Subpart S
Arsenic (cancer endpoint)	Metal	C & NC	30	Background[c]
Barium and compounds	Metal	NC	5,600	Calculated Subpart S
Beryllium and compounds	Metal	C	1	Background
Cadmium and compounds	Metal	NC	40	Calculated Subpart S
Chromium III and compounds	Metal	NC	80,000	Calculated Subpart S
Lead	Metal	NC	1000	PRG[d]
Mercury and compounds (inorganic)	Metal	NC	24	Calculated Subpart S
Selenium	Metal	NC	400	Calculated Subpart S
Silver and compounds	Metal	NC	400	Calculated Subpart S
Acenaphthene	PAH	NC	4,800	Calculated Subpart S
Benzo[a]anthracene	PAH	C	0.96	Calculated Subpart S
Benzo[a]pyrene	PAH	C	0.10	Detection Limit[e]
Benzo[b]fluoranthene	PAH	C	0.96	Calculated Subpart S
Benzo[k]fluoranthene	PAH	C	10	Calculated Subpart S
Chrysene	PAH	C	96	Calculated Subpart S
Dibenz[ah]anthracene	PAH	C	0.96	Calculated Subpart S
Fluoranthene	PAH	NC	3,200	Calculated Subpart S
Fluorene	PAH	NC	3,200	Calculated Subpart S
Indeno[1,2,3-cd]pyrene	PAH	C	-	NA
Naphthalene	PAH	NC	3,200	Calculated Subpart S
Pyrene	PAH	NC	2,400	Calculated Subpart S
Total Petroleum Hydrocarbons as Diesel (TPH-d)	PAH	C	100	NDEP Level Clean-up[f]
Polychlorinated biphenyls (PCBs)	PCBs	C	25	TSCA[g]
Bis(2-ethylhexyl)phthalate (DEHP)	SVOC	C	1,600	Calculated Subpart S
Bromoform (tribromomethane)	SVOC	C	89	Calculated Subpart S

Proposed Closure Goals
Hawthorne Army Depot
Hawthorne, Nevada

Constituent of Concern	Chemical Classification	Carcinogenic (C) or Non-carcinogenic (NC)	HWAD Proposed Closure Goals for Soil (mg/kg)	HWAD Proposed Closure Goal Source
Butyl benzyl phthalate	SVOC	NC	16,000	Calculated Subpart S
Dibromochloromethane	SVOC	C	83	Calculated Subpart S
Dibutyl-phthalate	SVOC	NC	8,000	Calculated Subpart S
Diethyl phthalate	SVOC	NC	64,000	Calculated Subpart S
Phenanthrene	SVOC		-	NA
Phenol	SVOC	NC	48,000	Calculated Subpart S
Acetone	VOC	NC	800	Calculated Subpart S
Anthracene	VOC	NC	24,000	Calculated Subpart S
Benzene	VOC	C	24	Calculated Subpart S
Bis(2-chloroisopropyl)ether	VOC	C	3,200	Calculated Subpart S
Bromomethane	VOC	NC	112	Calculated Subpart S
Carbon tetrachloride	VOC	C	5	Calculated Subpart S
Chlorobenzene	VOC	NC	1,600	Calculated Subpart S
Chloroform	VOC	C	115	Calculated Subpart S
Chloromethane	VOC	C	538	Calculated Subpart S
Dibromomethane	VOC	C	0.008	Calculated Subpart S
1,2-Dichlorobenzene	VOC	NC	7,200	Calculated Subpart S
1,4-Dichlorobenzene	VOC	C	18,300	Calculated Subpart S
Dichlorodifluoromethane	VOC	C	16,000	Calculated Subpart S
Ethylbenzene	VOC	NC	8,000	Calculated Subpart S
Methylene bromide	VOC	NC	800	Calculated Subpart S
Methylene chloride	VOC	C	4,800	Calculated Subpart S
2-Methylnaphthalene	VOC		-	NA
1,1,2,2-Tetrachloroethane	VOC	C	35	Calculated Subpart S
Tetrachloroethylene (PCE)	VOC	C & NC	800	Calculated Subpart S
Toluene	VOC	NC	16,000	Calculated Subpart S
1,1,1-Trichloroethane	VOC	NC	7,200	Calculated Subpart S
Trichloroethylene (TCE)	VOC	C & NC	480	Calculated Subpart S
Trichlorofluoromethane	VOC	NC	24,000	Calculated Subpart S
1,2,3-Trichloropropane	VOC	C	480	Calculated Subpart S
Vinyl chloride	VOC	C	0.37	Calculated Subpart S
Xylene Total (m-, o-, p-)	VOC	NC	160,000	Calculated Subpart S
2,3,7,8-TCDD	Dioxin	C	0.000005	Calculated Subpart S

[a] RCRA 55 FR 30870

[b] Not available

[c] Highest background concentration detected in 50 background soil samples

[d] Smucker, Stanford J. USEPA Rgion IX, Preliminary Remedial Goals, Second Half, Sep. 1995

[e] Method detection limit for Volatile Organic Compounds by EPA Method 8260 or Semi-Volatile Organic Compounds analyzed by EPA Method 8270

[f] Nevada Division of Environmental Protection

[g] Cleanup level for PCB spills in accordance with Toxic Substance and Control Act Spill Policy Guidelines 40 CFR 761

Appendix B

NEL LABORATORIES

CLIENT: Day & Zimmerman Hawthorne Corporation
PROJECT ID:
PROJECT #:

TEST: Total Extractable Petroleum Hydrocarbons by EPA Method 8015M, December, 1996
METHOD: EPA 8015M
ORDER ID: R0008091
MATRIX: Solid ANALYST: WSS - Division

CLIENT SAMPLE ID	SAMPLE DATE	NEL SAMPLE ID	RESULT mg/kg	C.R.	Reporting Limit	Surrogate Recovery*	EXTRACTED	ANALYZED
46-Wall-N	8/28/00	R0008091-01	ND		10. mg/kg	96 %	9/1/00	9/2/00
46-Wall-E	8/28/00	R0008091-02	ND		10. mg/kg	93 %	9/1/00	9/2/00
46-Wall-S	8/28/00	R0008091-03	ND		10 mg/kg	96 %	9/1/00	9/2/00
46-Wall-W	8/28/00	R0008091-04	ND		10. mg/kg	95 %	9/1/00	9/2/00
46-Floor-1	8/28/00	R0008091-05	ND		10. mg/kg	84 %	9/1/00	9/2/00

C.R.: Carbon Range

QUALITY CONTROL DATA (Total for Diesel Range)

Sample ID	Result	Acceptable Range	Surrogate Recovery*	Sample Number
Blank, 090100-E4 -BLK	ND	< 10 mg/kg	97 %	NA
LCS, 090100-E4-LCS	101 %	62 - 118 %	101 %	NA
LCSD, 090100-E4-LCSD	100 %	62 - 118 %	101 %	NA
MS, 090100-E4-MS	236 %	42 - 120 %	100 %	R0008091-02

*** Surrogate used was n-Octacosane, acceptance limits 48-115%.**

ND - Not Detected

FINAL

Summary Table of Analytical Data

SWMU I14 - Building 46 Spill Site

Hawthorne Army Depot

Hawthorne, Nevada

January 1996

FINAL

Sample ID	Sample Depth (ft)	Sample Date	Method	Analyte	Value	Units	Flag
I14-HA01-1-S	1.0	7/24/94	8015M	TPH (as diesel)	5.3	mg/kg	
I14-HA01-1-S	1.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA01-1-S	1.0	7/24/94	D4031	Immunoassay BTEX	<10	mg/kg	
I14-HA01-2-S	3.0	7/24/94	8015M	TPH (as diesel)	130	mg/kg	
I14-HA01-2-S	3.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA01-2-S	3.0	7/24/94	D4031	Immunoassay BTEX	10< X <50	mg/kg	
I14-HA02-0-S	0	7/24/94	8015M	TPH (as diesel)	22000	mg/kg	
I14-HA02-0-S	0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA02-0-S	0	7/24/94	D4031	Immunoassay BTEX	>300	mg/kg	
I14-HA02-1-S	1.0	7/24/94	8015M	TPH (as diesel)	3.7	mg/kg	J
I14-HA02-1-S	1.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA02-1-S	1.0	7/24/94	D4031	Immunoassay BTEX	<10	mg/kg	
I14-HA02-2-S	3.0	7/24/94	8015M	TPH (as diesel)	1200	mg/kg	
I14-HA02-2-S	3.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA02-2-S	3.0	7/24/94	D4031	Immunoassay BTEX	10< X <50	mg/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1016	< 300	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1221	< 300	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1232	< 200	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1242	< 300	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1248	< 200	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1254	< 200	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	8080	Aroclor 1260	< 70	ug/kg	
I14-HA03-0-5D (DP144)	0	7/24/94	D2216	Moisture/TNFR	4.6	percent	
I14-HA03-0-S	0	7/24/94	8015M	TPH (as diesel)	9200	mg/kg	
I14-HA03-0-S	0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA03-0-S	0	7/24/94	D4031	Immunoassay BTEX	>300	mg/kg	
I14-HA03-0-SD (DP142	0	7/24/94	8015M	TPH (as diesel)	2300	mg/kg	J
I14-HA03-0-SD (DP143	0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA03-0-SD (DP143	0	7/24/94	D4031	Immunoassay BTEX	300	mg/kg	
I14-HA03-1-S	1.0	7/24/94	8015M	TPH (as diesel)	350	mg/kg	
I14-HA03-1-S	1.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA03-1-S	1.0	7/24/94	D4031	Immunoassay BTEX	<10	mg/kg	
I14-HA03-2-S	3.0	7/24/94	8015M	TPH (as diesel)	59	mg/kg	

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Summary Table of Analytical Data

SWMU I14 - Building 46 Spill Site

Hawthorne Army Depot

Hawthorne, Nevada

January 1996

FINAL

Sample ID	Sample Depth (ft)	Sample Date	Method	Analyte	Value	Units	Flag
I14-HA03-2-S	3.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA03-2-S	3.0	7/24/94	D4031	Immunoassay BTEX	<10	mg/kg	
I14-HA03-3-S	5.0	7/24/94	8015M	TPH (as diesel)	4200	mg/kg	
I14-HA03-3-S	5.0	7/24/94	D4020	Immunoassay PCBs	<1	mg/kg	
I14-HA03-3-S	5.0	7/24/94	D4031	Immunoassay BTEX	<10	mg/kg	

Appendix C

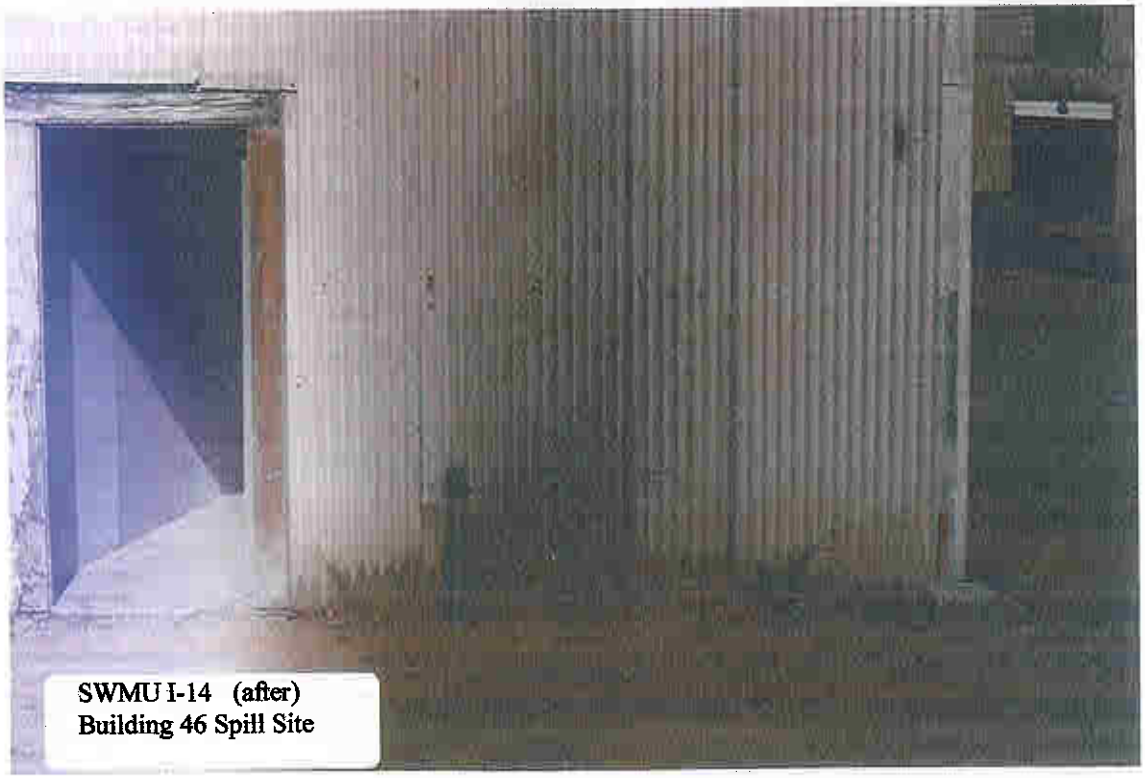
Survey Data at SWMU I-14
Hawthorne Army Depot
Hawthorne, Nevada

Point Name	Northing	Easting
I-14TEMPM	480111.72	1381488.04
HA-1	480108.06	1381471.89
HA-2	480111.88	1381472.29
HA-3	480108.66	1381481.12

Footnote: Survey data in Nevada State Plane West, 1927 coordinates.

Appendix D

SWMU I-14 (before)
Building 46 Spill Site



SWMU I-14 (after)
Building 46 Spill Site